UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/954,602	09/17/2001	Petri Ahonen	324-010512-US(PAR)	8277

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EXAMINER
VO, HUYEN X

ART UNIT	PAPER NUMBER
2655	

DATE MAILED: 08/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/954,602	AHONEN, PETRI
	Examiner	Art Unit	
	Huyen X. Vo	2655	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any.
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _17 June 2005_.

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-24_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1-24_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on _17 September 2001_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☒ All b) ☐ Some * c) ☐ None of:

      1. ☒ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant has submitted a response, filed 6/17/2005, arguing to traverse prior art rejection based on arguments regarding subject matters disclosed in figures 4-5 of Lagerqvist being not the same as *"inferring from the value of at least of speech parameter whether the speech frame contains speech that is decodable by means of a speech decoder"* (page 9). Applicant also argues that *"Lagerqvist does not disclose or suggest inferring whether the speech frame contains speech that is decodable by means of a speech decoder, from the value of at least one "speech parameter" in the channel decoded speech frame"* (page 10). Applicant's arguments have been fully considered but they are not persuasive. Lagerqvist fully anticipates these limitations in that a channel decoder together with the soft value calculator determines if a current speech frame contains errors by checking CRC codes and signal parameters (*referring to the functionality of elements 14-15 in figure 2*). If the current frame contains errors, the soft error concealment means tries to correct the errors by using speech parameters of a previous frame for the current frame before forwarding the current frame the speech decoder (*element 16*). Now, if the soft error concealment means cannot correct errors in the current frame, the current frame is muted, and the speech decoder does not need to decode the muted frame (*col. 7, line 55 to col. 8, line 19, particularly in states 6-7 of the state machine*). Therefore, previous ground of rejection is maintained.

2.   Applicant is advised to include specific steps describing how speech parameters

are used to determine whether a speech frame is decodable that is distinguished from

the prior art of record.   .

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1, 6-12, and 17-24 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Lagerqvist et al. (US 5502714) in view of Wood et al. (US 6092230).

5.   Regarding claim 1, Lagerqvist et al. disclose a method of processing a speech

frame in a radio system, comprising: channel-decoding a speech frame having

propagated over a radio path (*channel decoder 14 in figure 2*); if the speech frame is

free of defects on the basis of the channel-decoding, it is inferred from the value of at

least one speech parameter in the channel-decoded speech frame whether the speech

frame contains speech that is decodable by means of a speech decoder (*col. 5, lines 1-*

67, particularly lines 1-5, determine if the frame containing speech is in error by

measuring the speech quality of the frame), and if, according to the inference, the

speech frame does   of a speech decoder, the speech frame is decoded by means of a

speech decoder (*col. 5, lines 1-67, error concealment and then decoded by decoder*).

Lagerqvist et al. fail to disclose that if, according to the inference, the speech

frame does not contain speech that would be decodable by means of a speech

decoder, then the speech frame is not decoded. However, Wood et al. teach that if,

according to the inference, the speech frame does not contain speech that would be

decodable by means of a speech decoder, the speech frame is not decoded (*col. 6,*

lines 61 to col. 7, lines 15, since the encoder does not encode the non-speech frame,

the decoder needs not decode those non-speech frames).

Since Lagerqvist et al. and Wood et al. are analogous art because they are from

the same field of endeavors, it would have been obvious to one of ordinary skill in the

art at the time of invention to modify Lagerqvist et al. by incorporating the teaching of

Wood et al. in order to reduce processing power.

6.   Regarding claims 12 and 23-24, Lagerqvist et al. disclose a radio system, a

mobile station in a radio system, and a network of a radio system comprising: a channel

decoder for channel-decoding a channel-coded speech frame having propagated over a

radio path (*channel decoder 14 in figure 2*); a speech decoder for decoding the speech

frame (*speech decoder 17 in figure 2*); and inferring means for inferring from the value

of at least one speech parameter in the channel-decoded speech frame whether the

speech frame contains speech that is decodable by means of the speech decoder if the

speech frame is free of defects according to the channel decoder (*col. 5, lines 1-67,*

particularly lines 1-5, determine if the frame containing speech is in error by measuring the speech quality of the frame); and the speech decoder is arranged to decode the speech frame if, according to the inference, the speech frame does contain speech that is decodable by means of the speech decoder (*col. 5, lines 1-67, error concealment and then decoded by decoder*).

Lagerqvist et al. fail to disclose that the speech decoder is arranged not to decode the speech frame if, according to the inference, the speech frame does not contain speech that would be decodable by means of the speech decoder. However, Wood et al. teach that the speech decoder is arranged not to decode the speech frame if, according to the inference, the speech frame does not contain speech that would be decodable by means of the speech decoder (*col. 6, line 61 to col. 7, line 15, since the encoder does not encode the non-speech frame, the decoder needs not decode those non-speech frames*).

Since Lagerqvist et al. and Wood et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Lagerqvist et al. by incorporating the teaching of Wood et al. in order to reduce processing power.

7.   Regarding claims 6-10 and 17-21, Lagerqvist et al. further disclose that the symbols in the speech frame that are protected by channel coding are also used in the inference (*col. 5, line 1 to col. 6, line 67*) and the inference is performed by utilizing probability calculation (*col. 5, line 1 to col. 6, line 67*), wherein in the inference the

probability of the value of at least one speech parameter is calculated (*col. 5, line 1 to col. 6, line 67*), the probability of change in the value of at least one speech parameter is calculated (*col. 5, line 1 to col. 6, line 67*), and a threshold value has been defined for the probability of change in the value of a parameter during a given number of speech frames (*col. 5, line 1 to col. 6, line 67*).

8.   Regarding claims 11 and 22, Lagerqvist et al. further disclose that if the probability of change is lower than the threshold value, it is inferred that the speech frame does not contain speech that would be decodable by means of a speech decoder (*col. 6, lines 24-67*).

9.   Claims 2-5 and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lagerqvist et al. (US 5502714) in view of Wood et al. (US 6092230), and further in view of Dunlop et al. (incorporated by reference).

10.   Regarding claims 2-3 and 13-14, the modified Lagerqvist et al. fail to specifically disclose that the speech frame is encrypted, whereby decryption of the speech frame is performed in the method and decrypting the speech frame after the channel-decoding, prior to the inference. However, Dunlop et al. teach that the speech frame is encrypted, whereby decryption of the speech frame is performed in the method (*figure 7.4 page 263*) and decrypting the speech frame after the channel decoding, prior to the inference (*figures 7.2 and 7.4 on pages 261 and 263*).

Since the modified Lagerqvist et al. and Dunlop et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Lagerqvist et al. by incorporating the teaching of Dunlop et al. in order to enhance communication security.

11.   Regarding claims 4 and 15, the modified Lagerqvist et al. fail to disclose that according to the inference, the speech frame does not contain speech that would be decodable by means of a speech decoder, a bad frame indication is sent to the speech decoder. However, Wood et al. further disclose that that according to the inference, the speech frame does not contain speech that would be decodable by means of a speech decoder, a bad frame indication is sent to the speech decoder (*col. 6, lines 1-24 or output of element 406 of figure 4, the BFI is used to correct the corrupted frame for the decoder*).

Since the modified Lagerqvist et al. and Wood et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Lagerqvist et al. by incorporating the teaching of Wood et al. in order to specify to the speech decoder that the frame is in errors and needed to be replaced or muted to enhance audio quality.

12.   Regarding claims 5 and 16, Lagerqvist et al. further disclose that a homing sequence is sent to the speech decoder (*that is muting the frame or zero out the frame*).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Huyen X. Vo whose telephone number is 571-272-7631.

The examiner can normally be reached on M-F, 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

HXV   8/3/2005

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SUSAN MCFADDEN
PRIMARY EXAMINER